AMENDMENTS TO THE CLAIMS:

Please cancel claim 31 without prejudice or disclaimer, and amend the claims as follows:

1. (Currently Amended) An organic semiconductor device comprising:

an organic semiconductor layer deposited between a first electrode and a second electrode which are facing each other,

wherein the first electrode comprises a first material and the second electrode ~~comprise materials~~ comprises a second material having a different work function ~~functions~~ with respect to said first material ~~each other~~.

2. (Previously Presented) The organic semiconductor device according to claim 1, wherein the organic semiconductor layer comprises a P-type semiconductor.

3. (Original) The organic semiconductor device according to claim 2, wherein the first electrode has a higher work function than the second electrode.

4. (Previously Presented) The organic semiconductor device according to claim 2, wherein the first electrode has a work function that is substantially equivalent to an ionization potential of the organic semiconductor layer.

5. (Original) The organic semiconductor device according to claim 4, wherein the first electrode has a work function within a range from -1eV to +1eV with a center of the range

corresponding to an ionization potential of the organic semiconductor layer.

6. (Original) The organic semiconductor device according to claim 4, wherein the first electrode has a work function within a range from –0.5eV to +0.5eV with a center of the range corresponding to an ionization potential of the organic semiconductor layer.

7. (Previously Presented) The organic semiconductor device according to claim 1, wherein the organic semiconductor layer comprises an N-type semiconductor.

8. (Original) The organic semiconductor device according to claim 7, wherein the first electrode has a lower work function than the second electrode.

9. (Previously Presented) The organic semiconductor device according to claim 8, wherein the first electrode has a work function that is substantially equivalent to an electron affinity of the organic semiconductor layer.

10. (Original) The organic semiconductor device according to claim 9, wherein the first electrode has a work function within a range from -1eV to +1eV with a center of the range corresponding to an electron affinity of the organic semiconductor layer.

11. (Original) The organic semiconductor device according to claim 9, wherein the first electrode has a work function within a range from –0.5eV to +0.5eV with a center of the range corresponding to an electron affinity of the organic semiconductor layer.

12. (Previously Presented) The organic semiconductor device according to claim 1, wherein the first electrode and the second electrode comprise a source electrode and a drain electrode,

wherein the organic semiconductor layer is deposited such that a channel is formed between the source electrode and drain electrode, and

wherein the organic semiconductor device further comprises:

a gate electrode which applies a voltage to the organic semiconductor layer provided between the source electrode and the drain electrode.

13. (Previously Presented) The organic semiconductor device according to claim 12, wherein the device comprises a gate insulator layer which electrically insulates the gate electrode from the source electrode and the drain electrode.

14. (Previously Presented) The organic semiconductor device according to claim 13, wherein the source electrode and the drain electrode are both provided on one side of the organic semiconductor layer.

15. (Previously Presented) The organic semiconductor device according to claim 13, wherein the source electrode and the drain electrode are respectively provided on opposite sides of the organic semiconductor layer with respect to each other so as to sandwich the organic semiconductor layer therebetween.

16. (Previously Presented) The organic semiconductor device according to claim 1, wherein the first electrode and the second electrode comprise a source electrode and a drain electrode,

wherein the organic semiconductor layer is deposited in a layer thickness direction

such that the source electrode and the drain electrode sandwich the organic semiconductor layer therebetween, and

wherein the organic semiconductor device comprises a gate electrode which is implanted within the organic semiconductor layer.

17. (Previously Presented) The organic semiconductor device according to claim 16, wherein the gate electrode implanted within the organic semiconductor layer comprises at least one of a lattice shape, a comb shape, and a rattan blind shape.

18. (Previously Presented) The organic semiconductor device according to claim 1, wherein the organic semiconductor layer comprises a material having a hole carrier mobility.

19. (Previously Presented) The organic semiconductor device according to claim 1, wherein the organic semiconductor layer comprises at least one of pentacene, anthracene and tetracene.

20. (Previously Presented) The organic semiconductor device according to claim 1, wherein the first electrode and the second electrode each contact the organic semiconductor layer.

21. (Previously Presented) The organic semiconductor device according to claim 1, wherein the organic semiconductor device comprises a bottom-contact organic transistor.

22. (Previously Presented) The organic semiconductor device according to claim 1, wherein the organic semiconductor device comprises a top-contact organic transistor.

23. (Previously Presented) The organic semiconductor device according to claim 1, wherein the organic semiconductor layer comprises an organic material that transports electrons when a voltage is applied to the organic semiconductor layer.

24. (Previously Presented) The organic semiconductor device according to claim 1, further comprising:

a gate electrode for applying a voltage to the organic semiconductor layer.

25. (Previously Presented) The organic semiconductor device according to claim 24, wherein the gate electrode comprises at least one of Al, Cu, Ni, Cr, and alloys thereof.

26. (Previously Presented) The organic semiconductor device according to claim 1, wherein the first electrode comprises a source electrode and the second electrode comprises a drain electrode.

27. (Previously Presented) The organic semiconductor device according to claim 26, wherein the source electrode comprises a higher work function than the drain electrode.

28. (Previously Presented) The organic semiconductor device according to claim 26, wherein the source electrode comprises at least one of Au, Rh, Ir, Ni, As, Te, Pt, Pd, Cr, Se, Ni, indium tin oxide, indium zinc oxide, zinc oxide, stannic oxide, copper iodide and alloys thereof, and poly(3-methylthiphene), polyphenylene sulfide, polyaniline.

29. (Previously Presented) The organic semiconductor device according to claim 26, wherein the drain electrode comprises at least one of plumbum, stannum, aluminum, calcium, indium, lithium, magnesium and alloys thereof.

30. (Currently Amended) A bottom-contact organic transistor, comprising:

an organic semiconductor layer deposited between a first electrode and a second electrode which are facing each other,

wherein the first electrode comprises a first material and the second electrode ~~comprise materials~~ comprises a second material having a different work function ~~functions~~ with respect to said first material ~~each other~~.

31. (Canceled).